

J. ALLISON & G. A. HASSEL.
FURNACE CHARGING BOX.
APPLICATION FILED MAY 22, 1911.

1,044,842.

Patented Nov. 19, 1912.

2 SHEETS—SHEET 1.

FIG. 1.

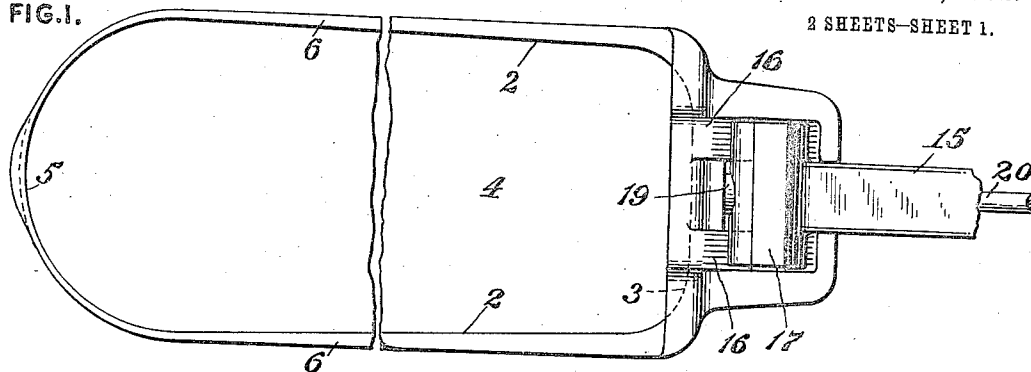


FIG. 2.

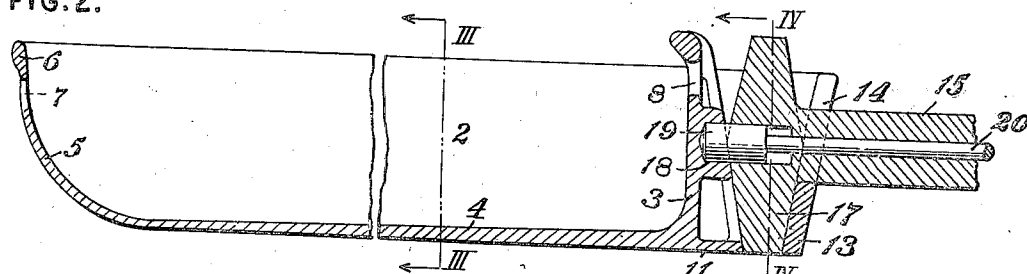


FIG. 3.

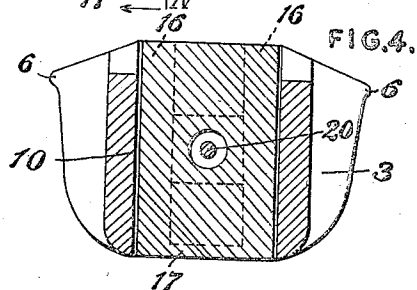
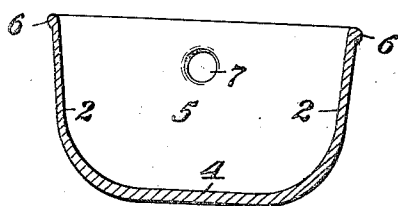


FIG. 5.

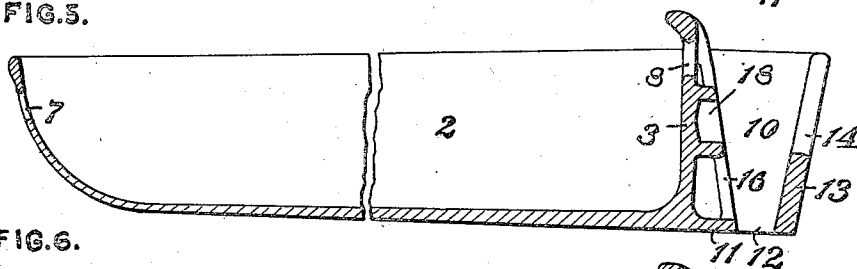
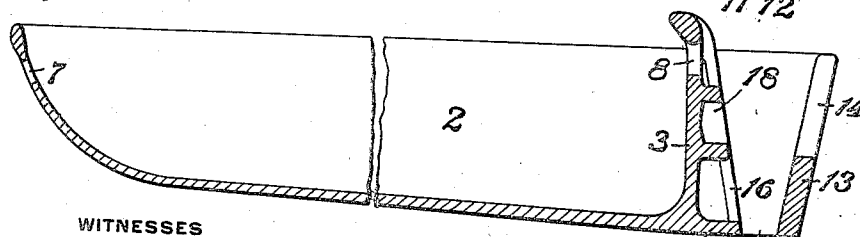


FIG. 6.



WITNESSES

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2 SHEETS-SHEET 2.

FIG. 7.

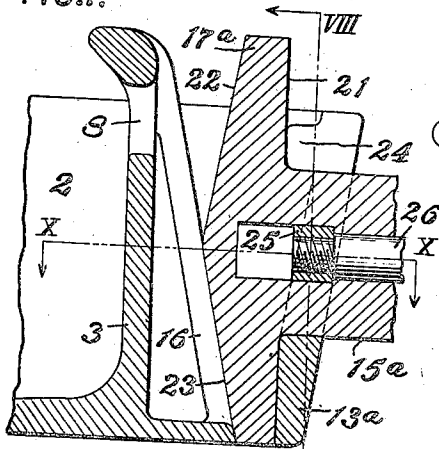


FIG. 8.

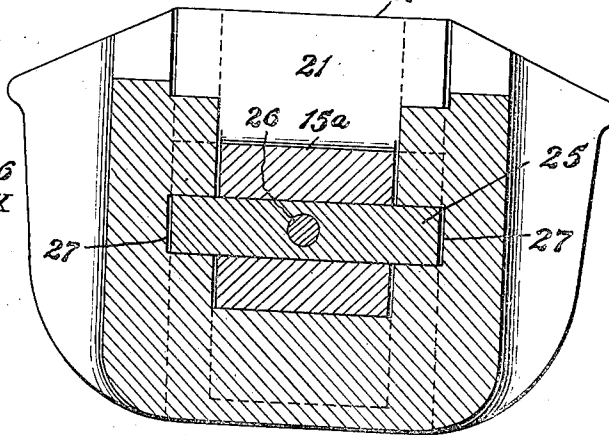


FIG. 9.

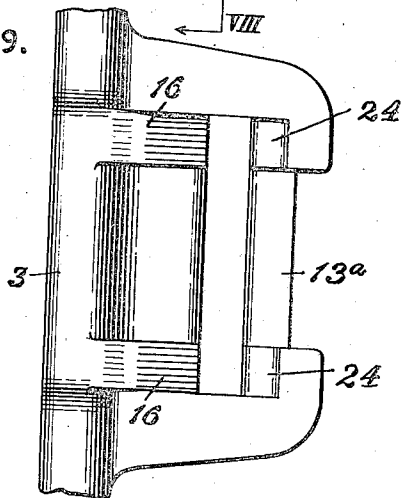


FIG. 10.

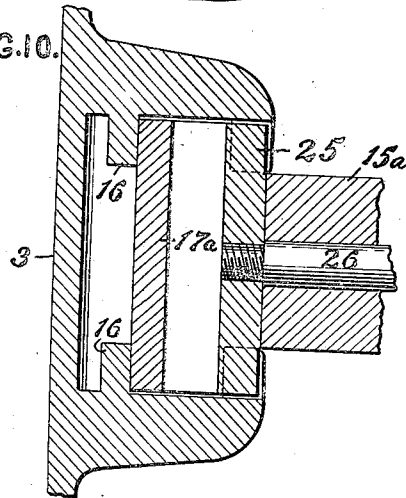


FIG. 11.

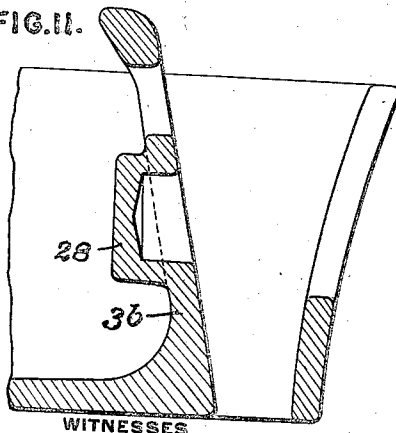
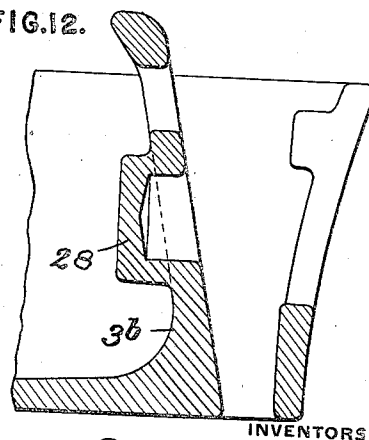


FIG. 12.



WITNESSES

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UNITED STATES PATENT OFFICE.

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FURNACE-CHARGING BOX.

1,044,842.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that we, JOHN ALLISON and GUSTAV A. HASSEL, respectively of Dravosburg and McKeesport, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Furnace-Charging Boxes, of which the following is a specification.

An object of our invention is to provide a new and improved furnace-charging box, preferably comprising an integral cast metal structure, of such a construction that the parts or portions of the box subjected to the greatest strains will be considerably stronger than the boxes of this class as heretofore constructed.

A further object of our invention is to form integral with the box a new and improved charging-bar receiving pocket.

Still further objects of the present invention are to provide a box of the class described having the forward portion thereof of less depth than the rear portion; a box having the front end thereof curved or bowed, and to provide tapering side walls and bottom portion.

In the accompanying drawings, which illustrate applications of our invention, Figure 1 is a plan of a furnace-charging box embodying our invention; Fig. 2, a central longitudinal sectional view of the box of the form of Fig. 1 showing a portion of a charging-arm in connection therewith; Fig. 3, a sectional view taken on line III—III of Fig. 2; Fig. 4, a sectional view taken on line IV—IV of Fig. 2; Fig. 5, a central longitudinal sectional view showing a modified form of our invention; Fig. 6, a similar view showing a still further modified form; Fig. 7, a vertical sectional view showing a modified form of a charging-arm receiving pocket and different form of charging-arm; Fig. 8, a sectional view taken on line VIII—VII of Fig. 7; Fig. 9, a plan of the pocket of the form of Fig. 7; Fig. 10, a horizontal sectional view of the pocket and the charging-bar of the form of Fig. 7 locked in the pocket; Fig. 11, a detailed longitudinal sectional view showing a further modified form of our invention; and Fig. 12, a similar view particularly showing a modified form of charging-bar receiving pocket.

Referring to the drawings, and first to the form of Fig. 1, the charging-box comprises

two preferably tapering side walls 2, a substantially straight rear wall 3, a tapering bottom portion 4 of greater thickness at the rear of the box than at its forward end, and a curved or bowed forward end wall 5. In addition to the parts mentioned, a flange 6 extends around the upper edge of the box and the front and rear ends are respectively provided with an opening 7 and 8. Formed integral with the rear wall 3 of the charging-box we provide a charging-arm receiving pocket 10 comprising a horizontally extending bottom member 11 having an opening 12 formed therein, a sloping or downwardly and rearwardly inclined rear wall 13, said wall having a centrally disposed opening 14, designed to receive the charging-bar 15, and downwardly extending and forwardly inclined members 16 extending from the top of the rear wall to the lower horizontal member 11.

17 designates a tapered head of the charging-bar 15, and this head is adapted to be entered in the pocket 10, as clearly shown by Fig. 2.

Formed integral with the rear end 3 we provide a socket 18 adapted to receive the enlarged end 19 of the movable rod 20 of the charging-arm. Attention is called to the comparatively large mouth or opening of the pocket, thereby enabling the head of the charging-arm to be swung into position within the pocket without coming in contact with the walls thereof.

In the forms of Figs. 5 and 6 we have shown modified forms of boxes embodying substantially the same construction as the form of Fig. 1, except that in the forms of Figs. 5 and 6 we have shown the body of the box sloping and of considerably greater height at the rear portion thereof than at the front of the box.

In all of the forms above described, it will be noted that we have formed the rear portion of the boxes of considerably more metal than the forward ends of the same, thereby providing a box having considerably greater strength at the rear end thereof, where it is most needed, than at the front or intermediate portions of the box.

In the form of Fig. 7 we have shown a box particularly designed for use in connection with a different form of charging-bar 15^a and a different head 17^a. Head

17^a has rear flat faces 21 and two inclined front faces 22 and 23. In this form of our invention we form the sloping or inclined front wall 13^a of the box with inwardly projecting members or lugs 24 adapted, when the head is inserted in the box, to make contact therewith. The charging-bar 15^a in this construction carries a sliding member 25 connected with a rod 26 extending through the bar. The front wall in this form of our invention is provided with laterally extending slots 27 adapted to receive the locking member 25 of the charging-bar.

In the forms of Figs. 11 and 12 we have shown the rear walls 3^b of the box inclined and with said walls provided with means 28 designed to engage the head of the charging-bar without employing inclined members as in the other forms of our invention.

What we claim is:

1. A charging-box consisting of an integral cast metal structure formed with a charging-bar pocket, said pocket having a downwardly extending and forwardly inclined rear member and a downwardly extending and rearwardly inclined front wall.

2. A charging-box consisting of an integral cast metal structure having an end wall thereof formed with a charging-bar receiving pocket, said pocket having a downwardly extending and rearwardly inclined front wall formed with an inwardly projecting lug.

3. A charging-box consisting of an integral cast metal structure having a forward

bowed end wall and its body of less depth at its front portion than at its rear portion.

4. A charging-box consisting of an integral cast metal structure comprising a substantially straight rear end wall formed with a charging-arm pocket, and a curved front end wall.

5. A charging-box consisting of an inclined cast metal structure having its body of less depth at its front portion than at its rear portion.

6. A charging-box consisting of an integral cast metal structure comprising a straight rear end wall formed with a charging-arm pocket, a curved front end wall, said box being of less depth at its forward end than at its rear end.

7. A charging-box consisting of an integral cast metal structure having a forward bowed end wall, a straight rear wall, said rear wall being formed with a charging-arm pocket having a front rearwardly inclined wall.

8. A charging-box comprising an integral metallic structure having its bottom and side wall portions tapering or of greater thickness at the rear of the box than at the forward portion thereof.

In testimony whereof we affix our signatures in presence of two witnesses.

JOHN ALLISON.

GUSTAV A. HASSEL.

Witnesses:

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